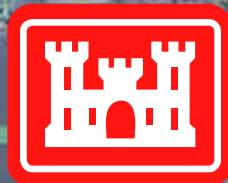


Lake Okeechobee Regulation Schedule Study




**Lieutenant Colonel Andrew Goetz
U.S. Army Corps of Engineers
Jacksonville District**



Meeting Agenda

- Introductions
- Presentation
- Public comment
- Adjourn

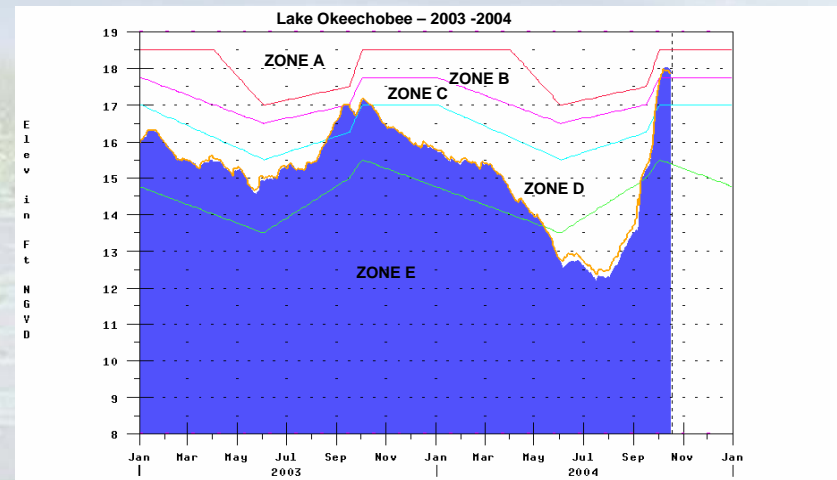
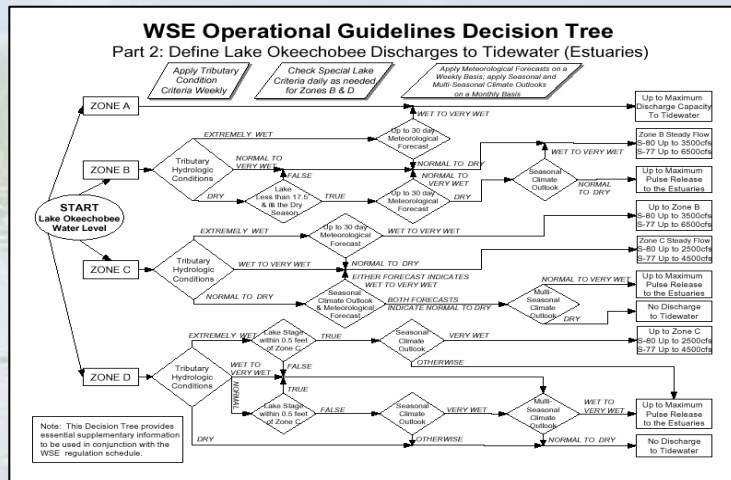


A photograph of Lake Okeechobee, showing a vast expanse of water covered with numerous green lily pads. In the background, there are dense stands of tall reeds or grasses. The sky is a pale, hazy blue. The entire image is framed by a thick blue border.

Lake Okeechobee Management

Current Regulation Schedule Water Supply Environment (WSE)

- Approved in July 2000
- Flexible schedule



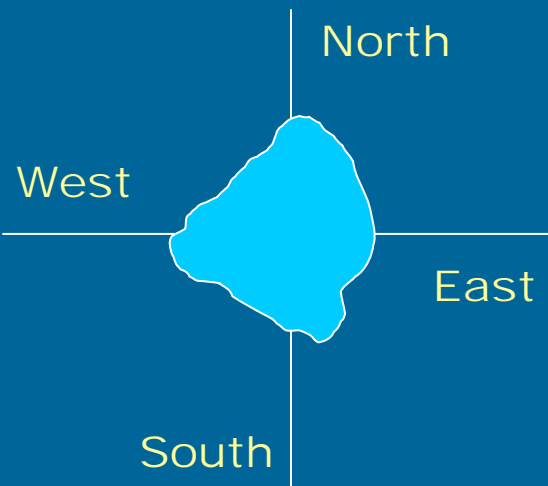
Hardships

Caloosahatchee River



Flooded
Agriculture

St. Lucie Estuary



Flooded Tree
Islands
Water
Conservation
Areas

The image is a landscape photograph of a lake. The foreground is filled with numerous green lily pads floating on the water. In the middle ground, there is a dense line of tall, green reeds or grasses. The background shows a clear blue sky with a few wispy clouds. The entire photograph is enclosed within a thick, solid blue rectangular border.

Lake Regulation Schedule Study

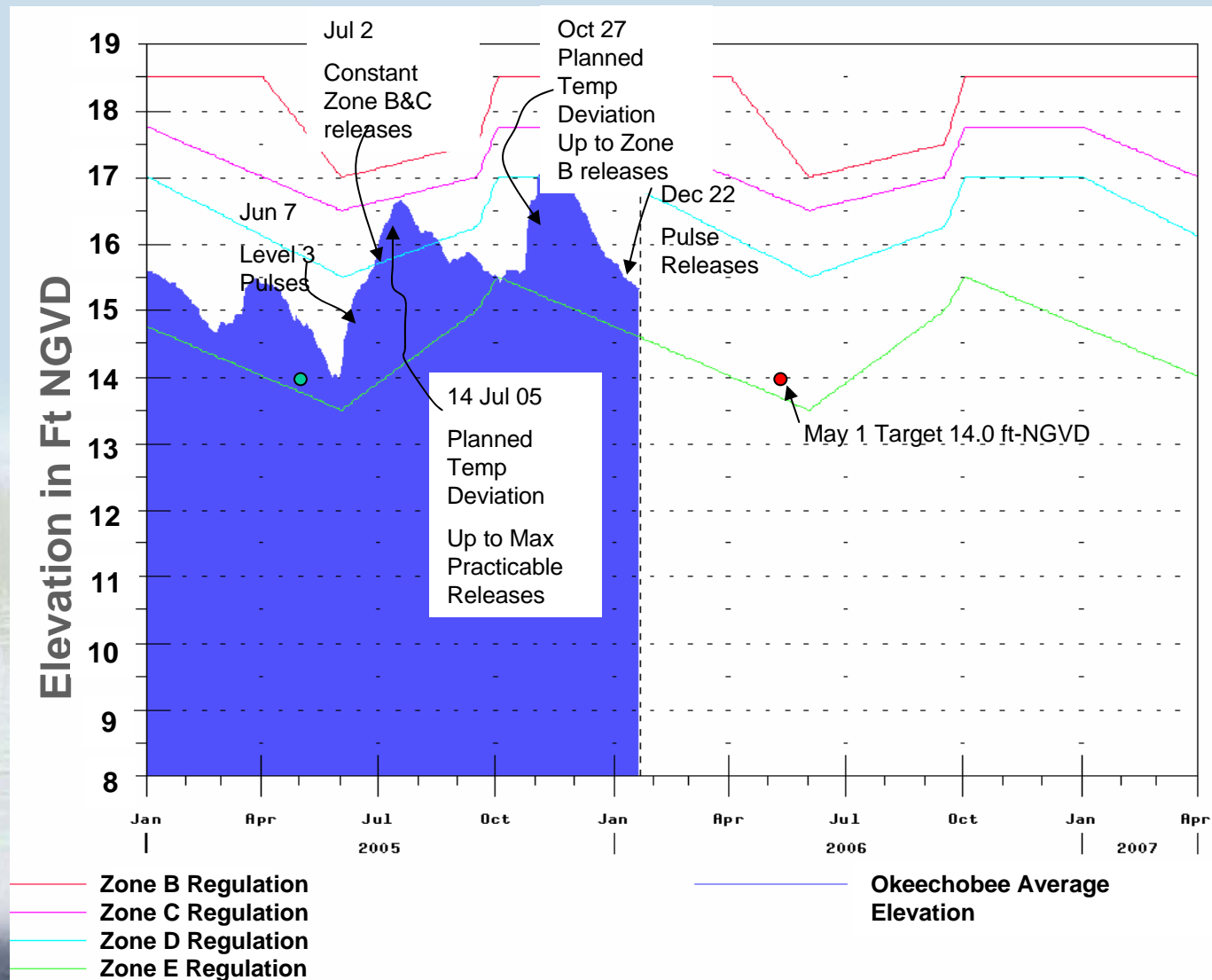
Study Goals & Objectives

- Implement a new Lake Regulation Schedule supported by a Supplemental Environmental Impact Statement by January 2007.

The objectives of the new regulation schedule are:

- Manage Lake Okeechobee at optimal lake levels to allow recovery of the Lake's environment and natural resources.
- Reduce high regulatory releases to the Caloosahatchee and St. Lucie estuaries so that the health of the estuaries are not compromised.
- Continue to provide flood control, water supply, navigation and recreation water resource needs.

Current Operations

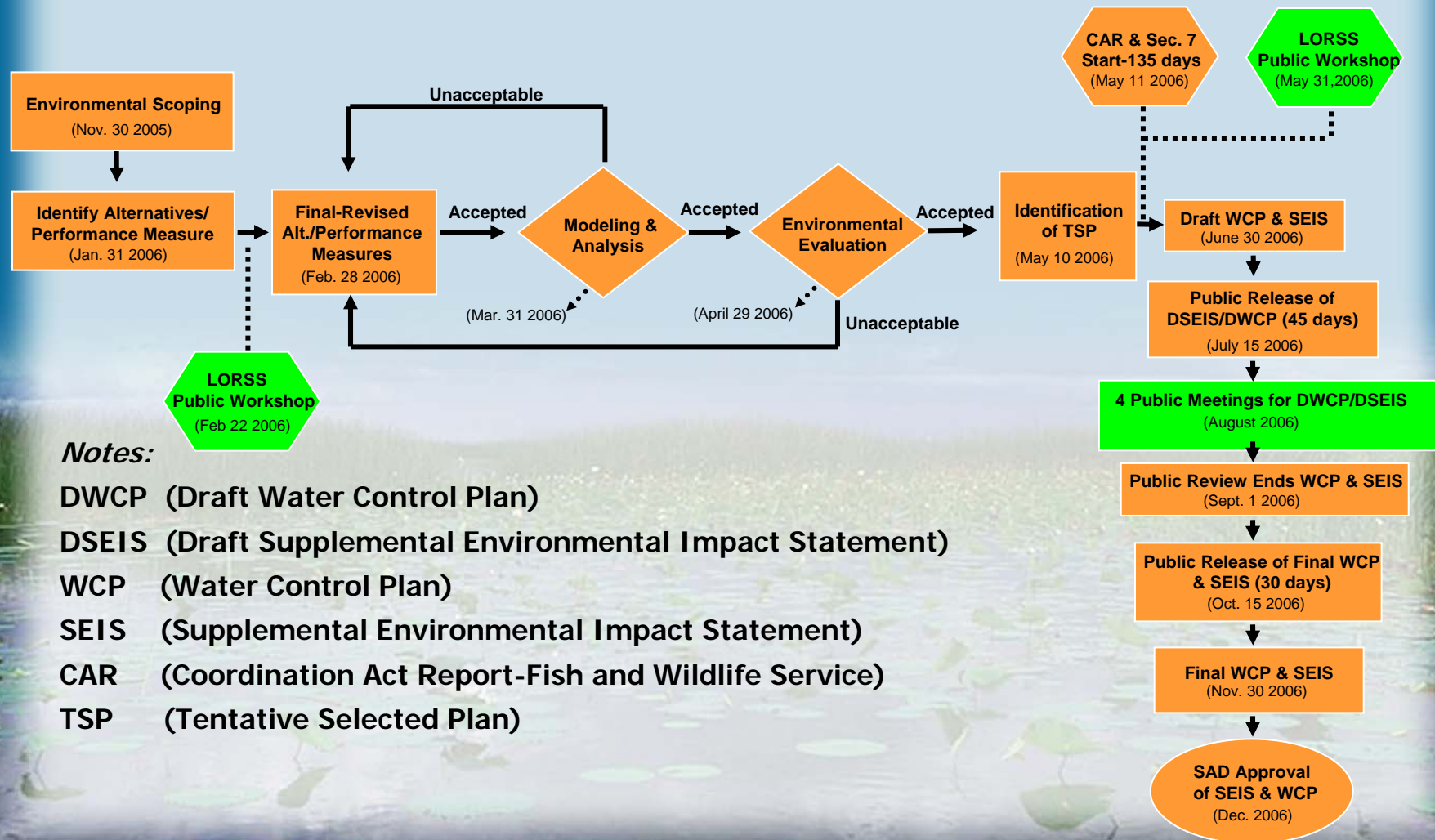


Inter-Agency Study Team

- U. S. Army Corps of Engineers
- South Florida Water Management District
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- U. S. Environmental Protection Agency
- Florida Fish and Wildlife Conservation Commission



Lake Okeechobee Regulation Schedule Study (LORSS) Process

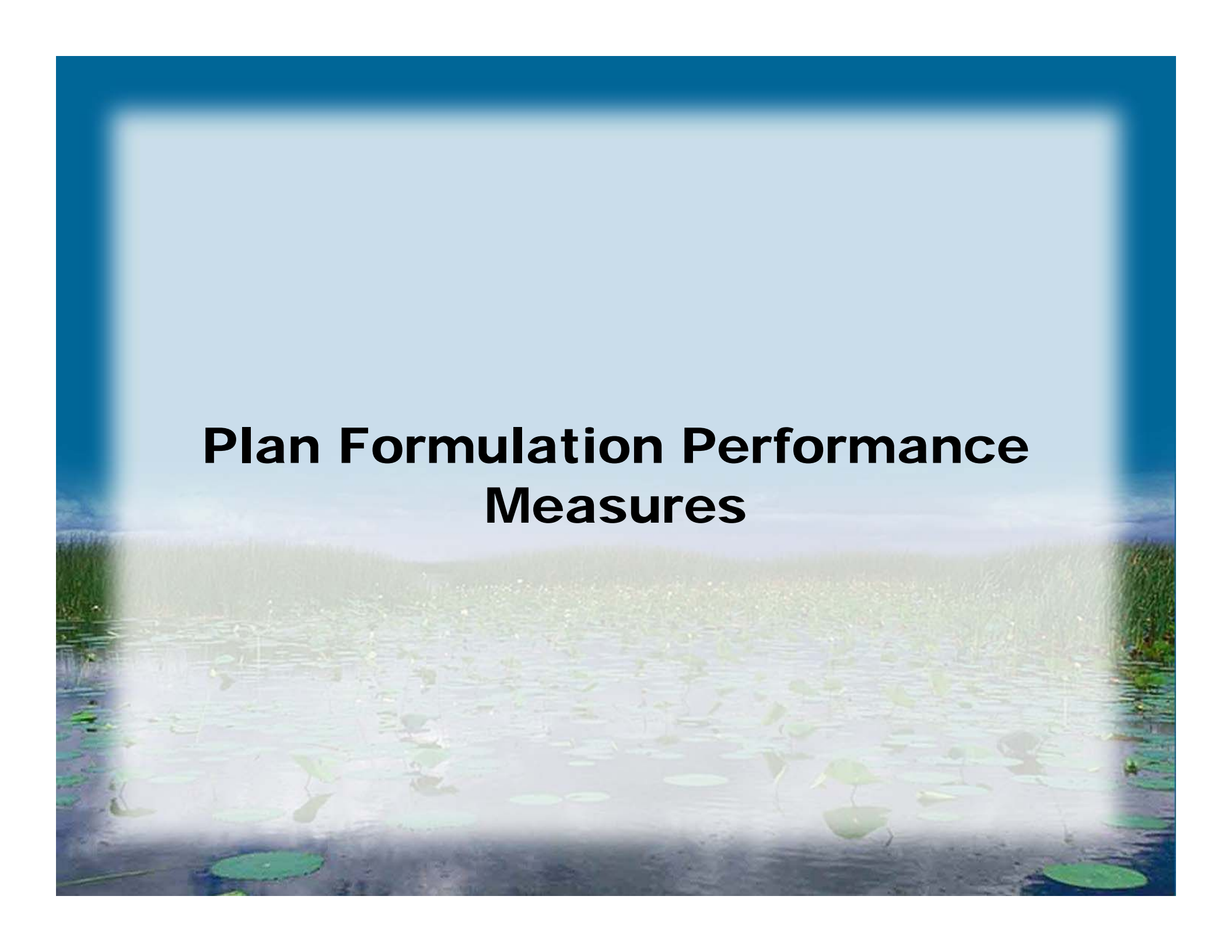


Study Assumptions

- Existing condition: 2005
- Development of Operational Rules Will Look at Entire Period of Record (1913 to current)
- Temporary Forward Pumps
- New schedule's anticipated period of use: 2007 to 2010
- Corps will initiate new Lake Okeechobee Regulation Schedule Study & EIS in 2007, to capture Acceler8 other CERP Band 1 projects and permanent forward pumps, scheduled for implementation in 2010

Study Constraints

- Model Period of Record (1965 – 2000)
36 Years.
- Existing Systems Conveyance Capacity.
- Stormwater Treatment Areas (STA)
Water Quality Treatment Capacity.
- Existing Regulation Schedules for WCA
and
Kissimmee River Chain of Lakes.

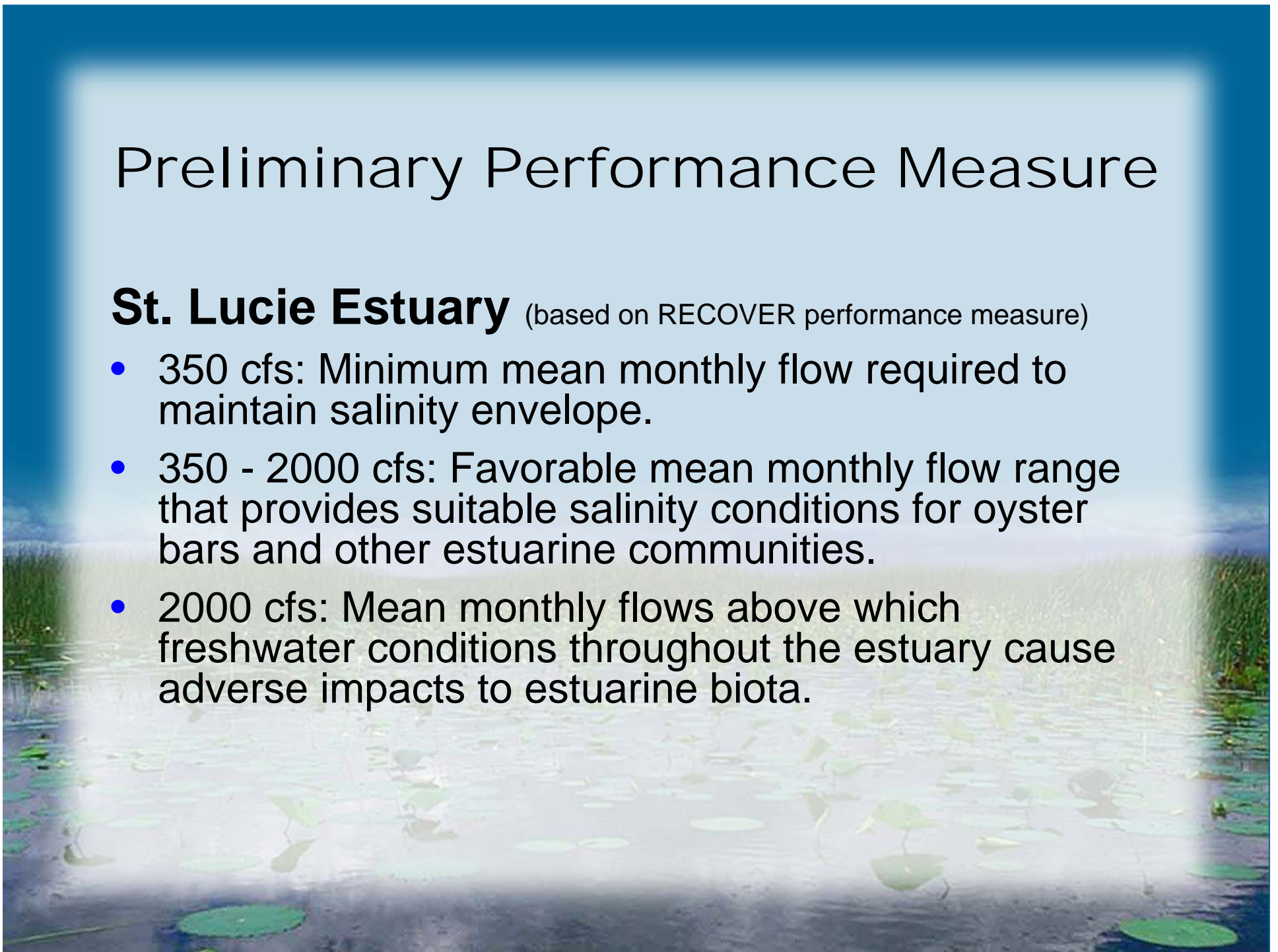


Plan Formulation Performance Measures

Preliminary Performance Measure

St. Lucie Estuary (based on RECOVER performance measure)

- 350 cfs: Minimum mean monthly flow required to maintain salinity envelope.
- 350 - 2000 cfs: Favorable mean monthly flow range that provides suitable salinity conditions for oyster bars and other estuarine communities.
- 2000 cfs: Mean monthly flows above which freshwater conditions throughout the estuary cause adverse impacts to estuarine biota.



Preliminary Performance Measure

Caloosahatchee Estuary (based on RECOVER performance measure)

- 450 cfs: Minimum mean monthly flow required to maintain salinity envelope.
- 450 - 2800 cfs: Favorable maximum mean monthly flow that provides suitable salinity conditions for the development of important benthic communities (e.g. oysters and submerged aquatic vegetation).
- 2800 – 4500 cfs: Mean monthly flow range causing low damaging salinity in the seaward portion of the estuary.
- 4500 cfs: Mean monthly flows above which cause low damaging salinity in downstream marine bays.

Preliminary Performance Measure

Lake Okeechobee (Ecological Measures) (based on RECOVER performance measure)

- Gradual stage recession patterns where stages decline from near elevation 15.5 ft. (Nov.-Jan.) to elevation 12.5 ft. (June-July). Followed by a gradual rise in stage from fall to winter
- Reduce number of extreme low lake stages below elevation 10 ft.
- Reduce number of extreme high lake stages above elevation 17 ft.

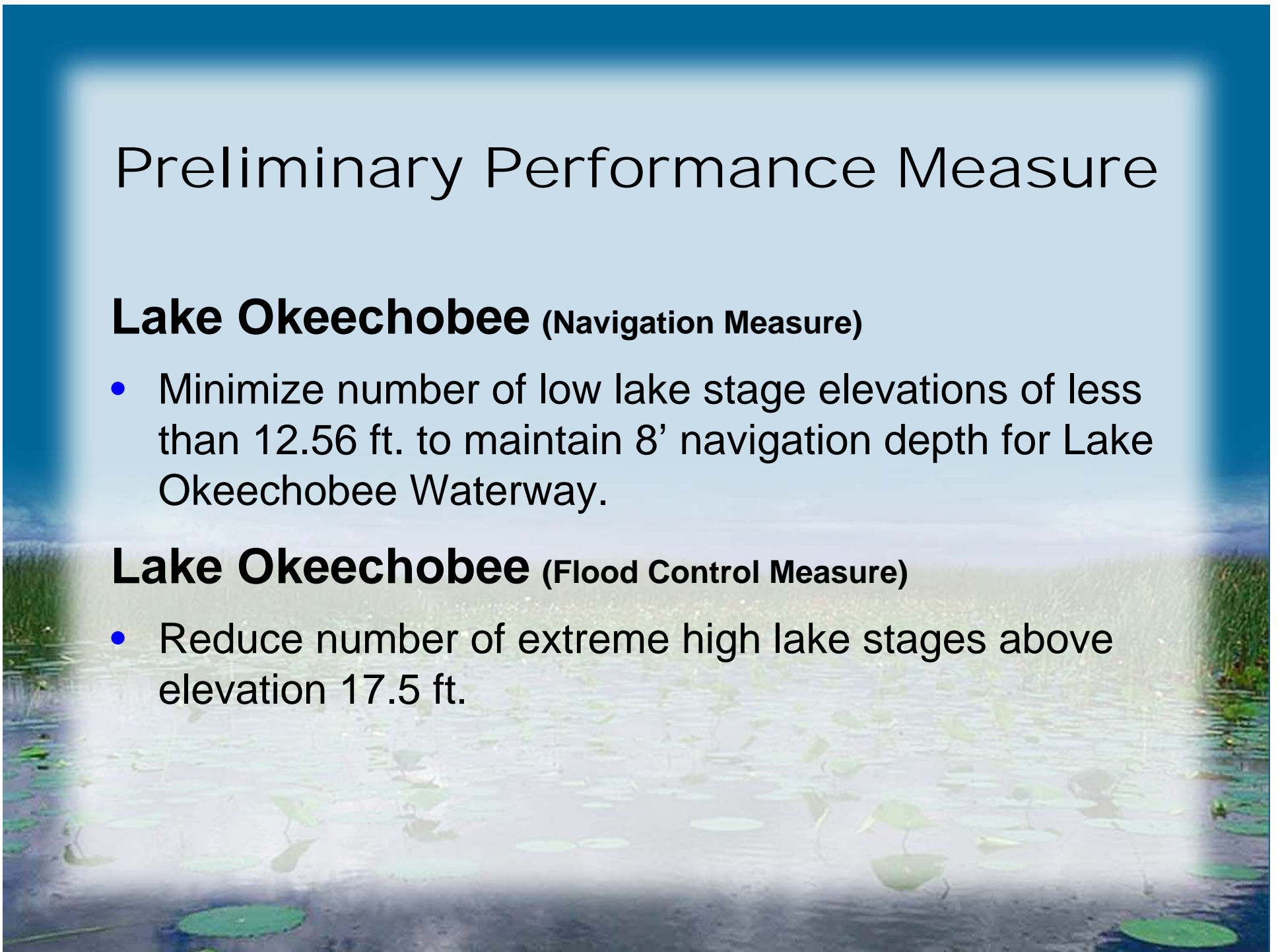
Preliminary Performance Measure

Lake Okeechobee (Navigation Measure)

- Minimize number of low lake stage elevations of less than 12.56 ft. to maintain 8' navigation depth for Lake Okeechobee Waterway.

Lake Okeechobee (Flood Control Measure)

- Reduce number of extreme high lake stages above elevation 17.5 ft.



Preliminary Performance Measure

Water Supply Measure

- Primary reliance – CERP performance measures
 - Frequency duration and severity of water restrictions
- Additional water restriction information may be used to distinguish relative performance of alternatives
- Separate measures for Lake Okeechobee Service Area and four Coastal Service Areas

Preliminary Performance Measure

Water Conservation Areas

- **Wading Birds (January to May)**

Maintain water depths equal to or less than 0.5 ft for feeding.

Maintain water recession rates of -0.10 ft/week

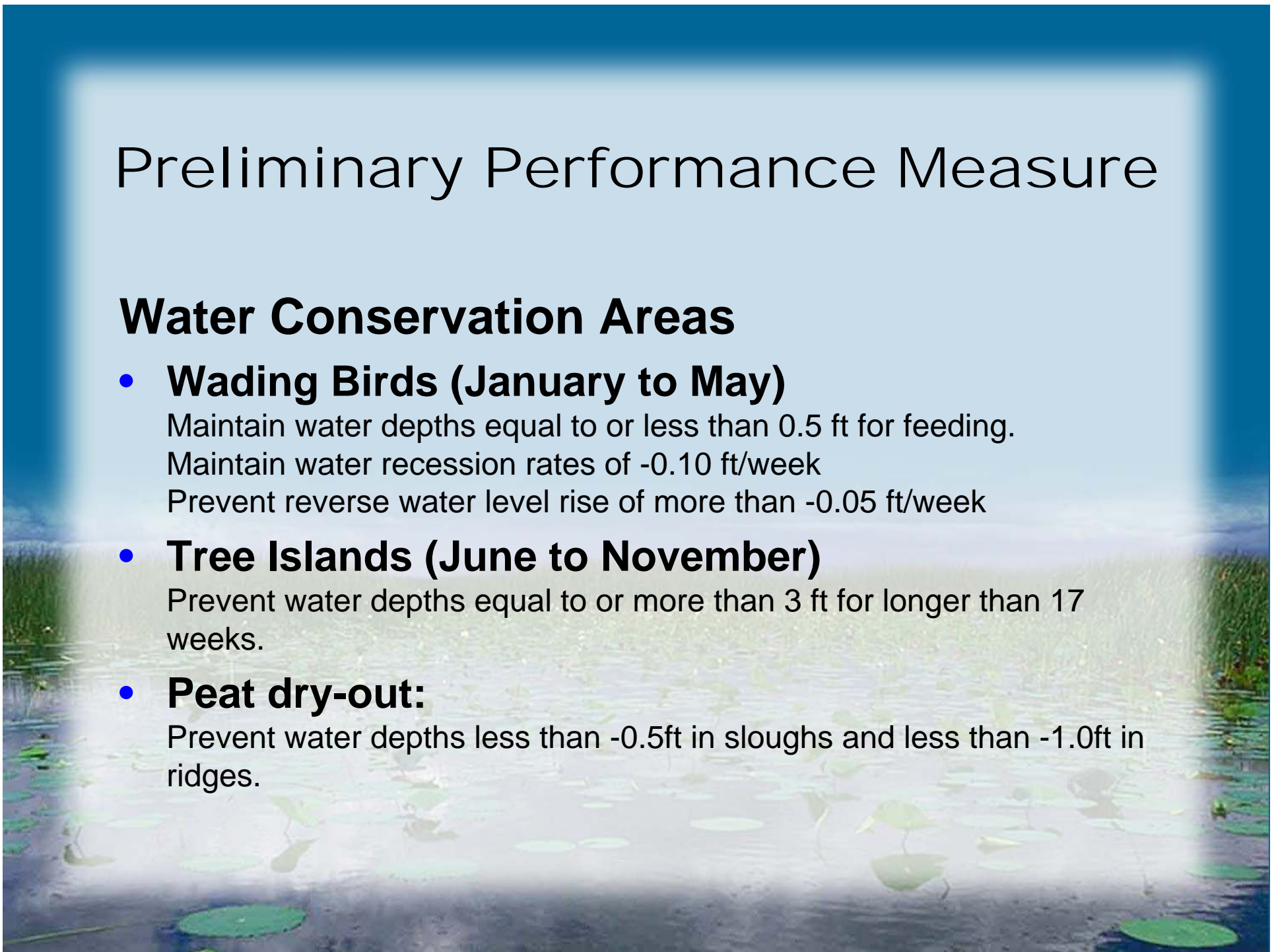
Prevent reverse water level rise of more than -0.05 ft/week

- **Tree Islands (June to November)**

Prevent water depths equal to or more than 3 ft for longer than 17 weeks.

- **Peat dry-out:**

Prevent water depths less than -0.5ft in sloughs and less than -1.0ft in ridges.



Preliminary Performance Measure

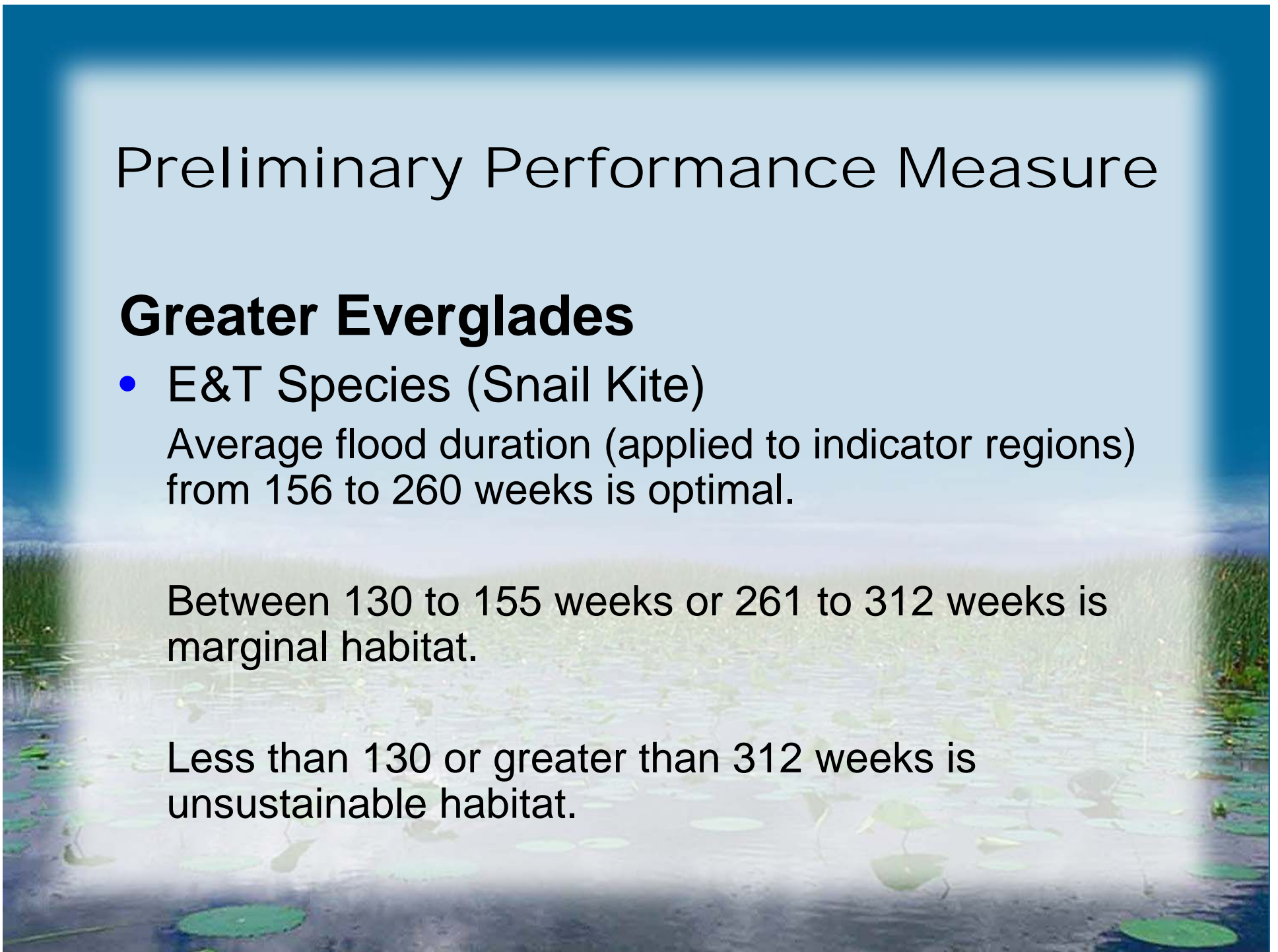
Greater Everglades

- E&T Species (Snail Kite)

Average flood duration (applied to indicator regions) from 156 to 260 weeks is optimal.

Between 130 to 155 weeks or 261 to 312 weeks is marginal habitat.

Less than 130 or greater than 312 weeks is unsustainable habitat.



The image features a tranquil pond scene. In the foreground, numerous green lily pads float on the dark water. The middle ground is filled with a dense stand of tall, green reeds or grasses. The background shows a clear, bright blue sky. The entire scene is enclosed within a thick, solid blue rectangular border.

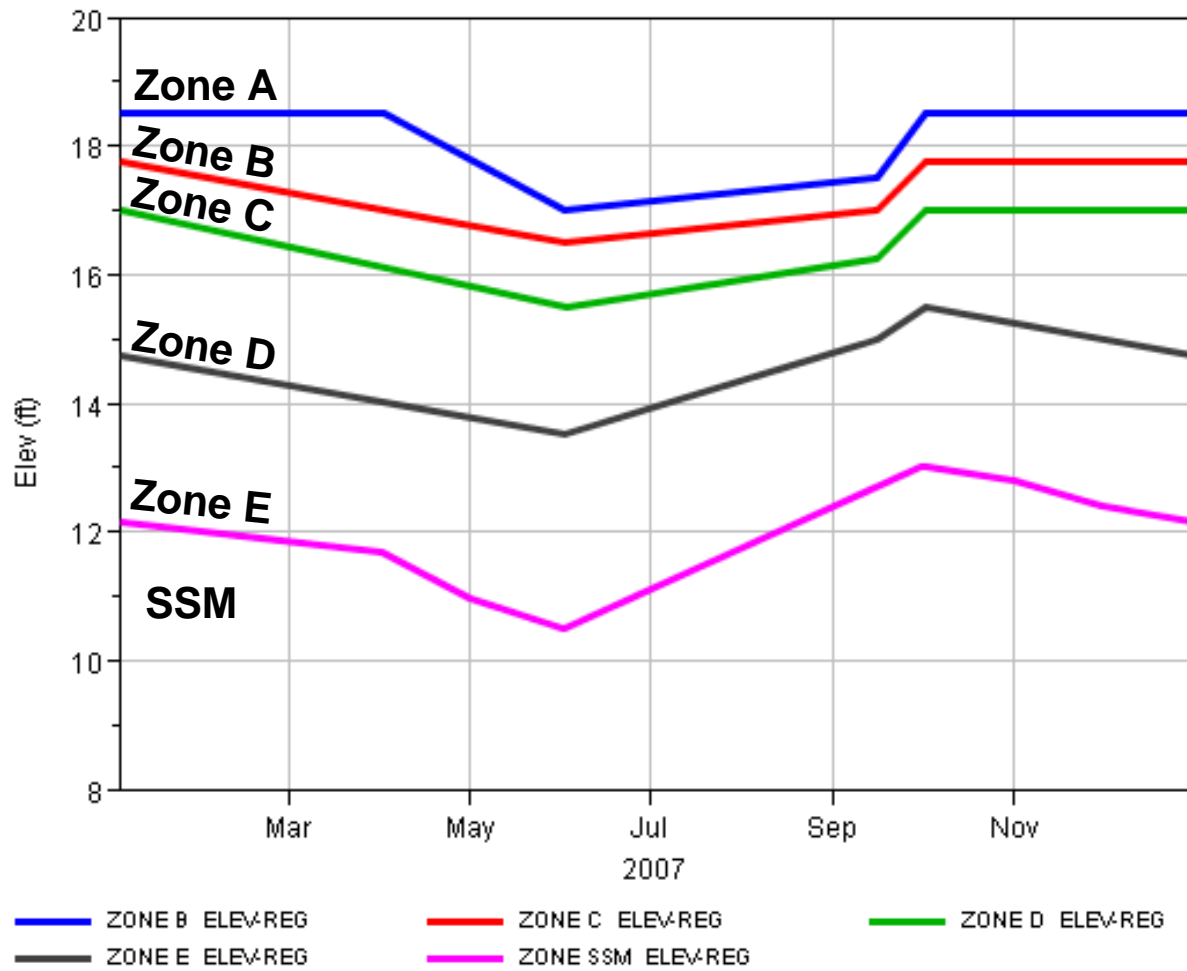
Alternative Plans

No Action Alternative

- The no action alternative is the base condition of the study using the current WSE schedule.
- All alternative plans will be compared to the model performance of the 'No Action Alternative' to determine which plan is best overall.
- The alternative that produces the best overall results will be the study's Tentatively Selected Plan.



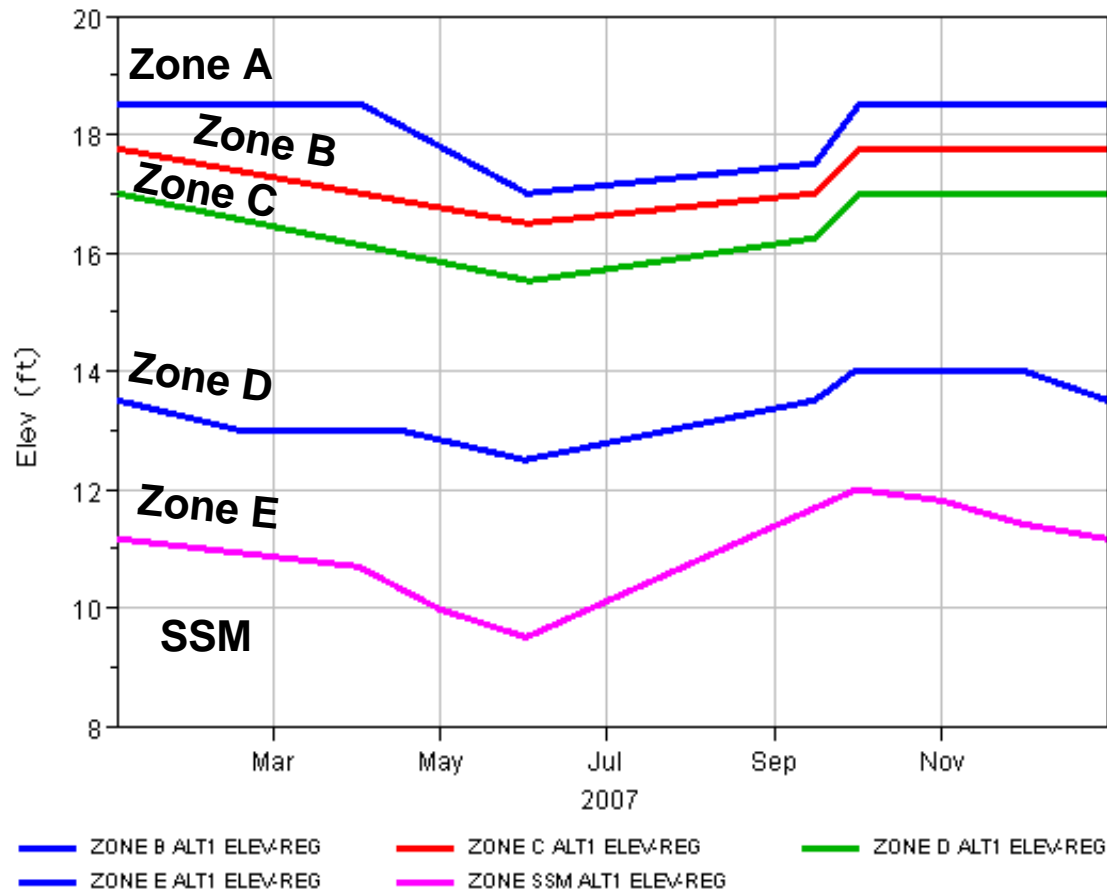
WSE Schedule



Preliminary Alternative #1

- Reshape and lower the line representing the divide between Zone D and Zone E.
Will allow for quicker response in the fall and winter months to large inflows that often occur during the hurricane season.
- Apply tributary hydrologic conditions that represent longer term wet or dry conditions that have persisted in the tributaries.
Palmer Drought Index / to replace 30-day net rainfall,
14-day mean net inflow / to replace 14-day mean S-65E flow
- Allow base flow when Lake Okeechobee water levels are in Zone D or above.
Minimum or no risk to water supply objective at low lake levels with temporary forward pumps in place and adjustments to supply side management.
- Lower Supply Side Management Trigger Line by 1 foot.

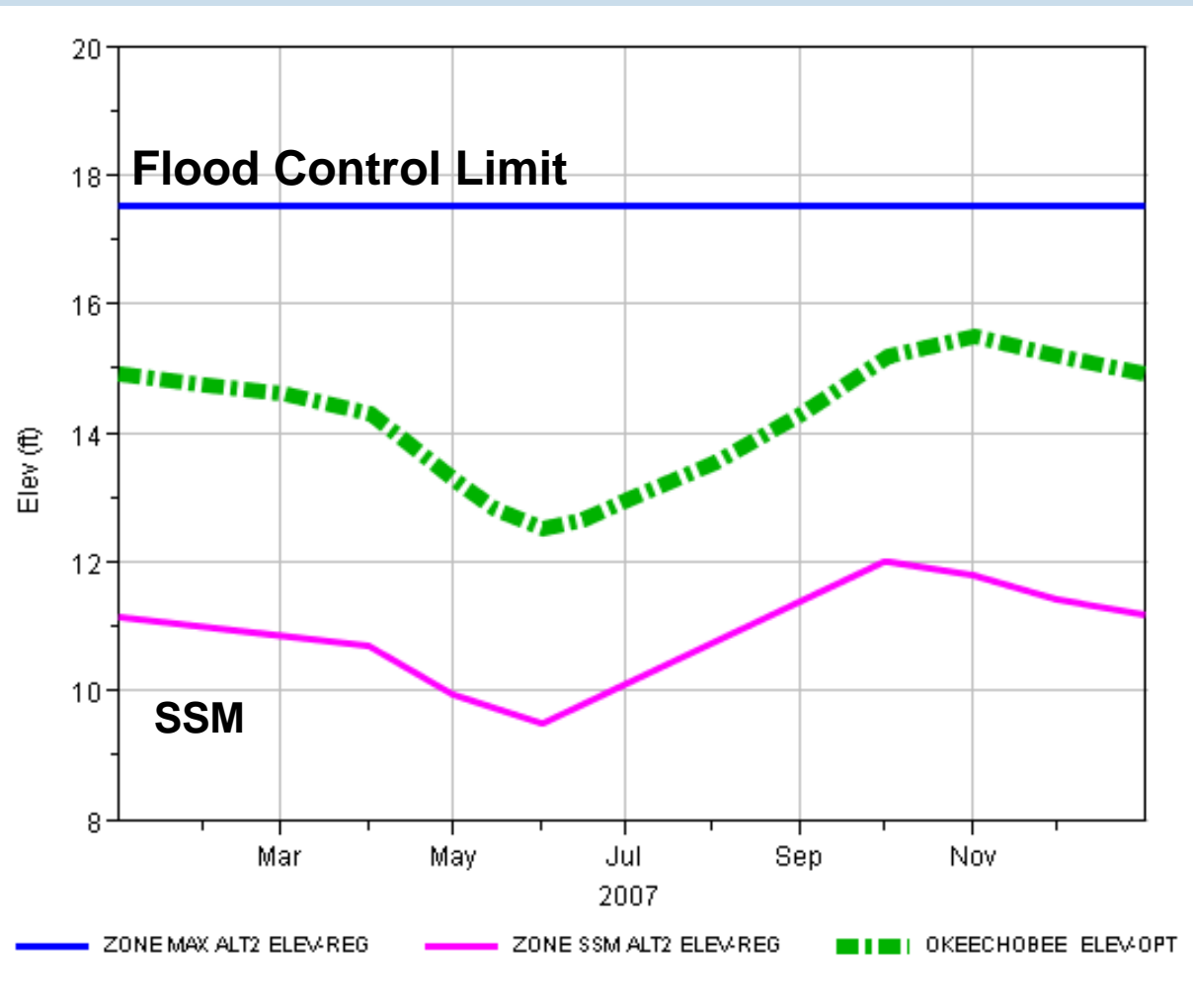
Alternative #1



Preliminary Alternative # 2

- This alternative has two Lake stage limits.
- One limit identifies the high elevation of the Lake at 17.5ft NGVD, for flood control purposes.
- One limit identifies the low elevation of the Lake, for water supply purposes.
- Between these two limits, the optimal Lake elevation will be established.
- Water release decisions, rate of release and distribution of release, will be based on operational rules to maintain, as close as possible, the optimal lake elevation, while balancing the Estuaries, Water Conservation Areas, Water Supply, Navigation and Flood Control objectives.

Alternative #2

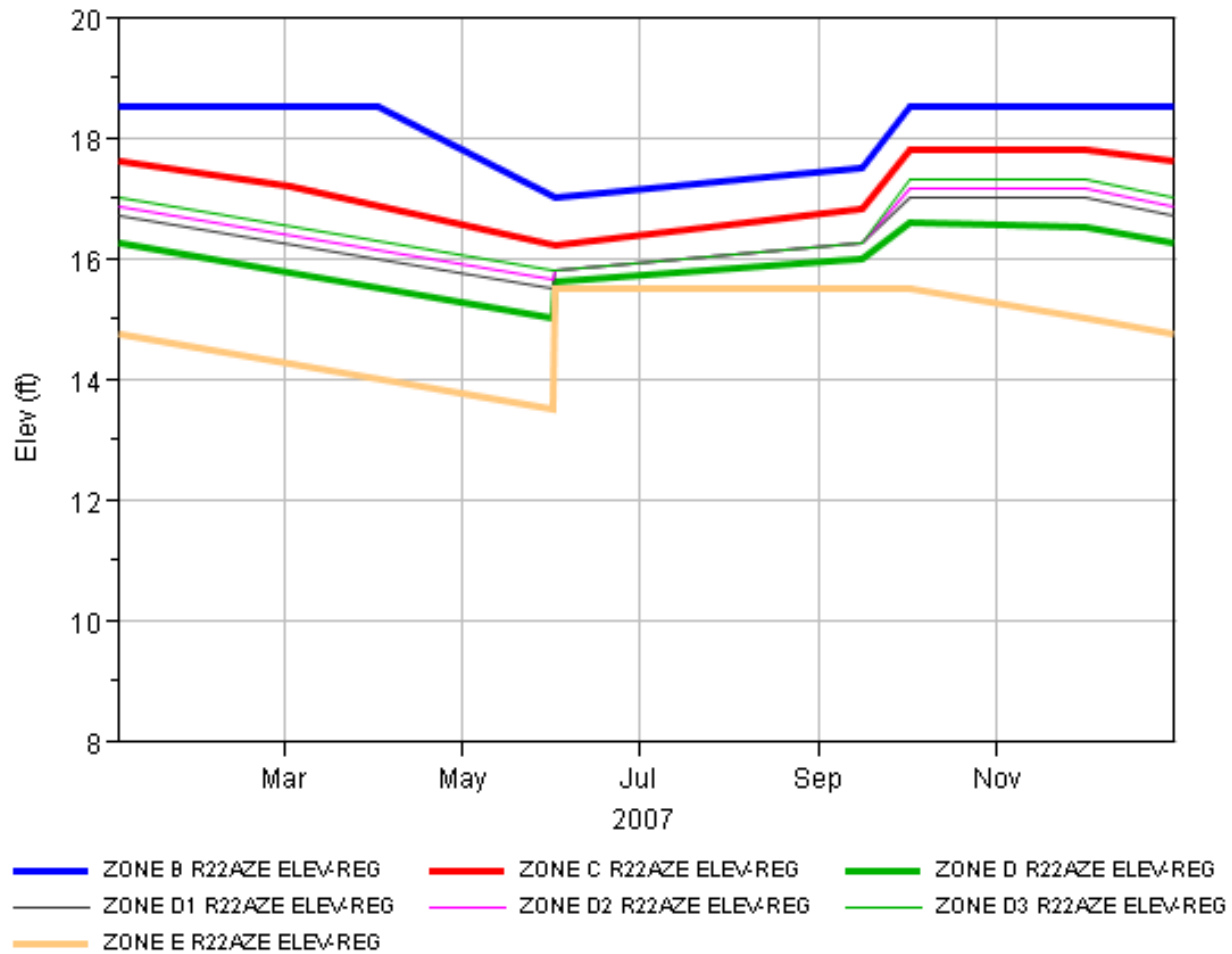


Preliminary Alternative # 3

- Re-evaluation of Run 22aze.
- Would allow low level releases in Zone E Lake stages of 13.75 to 15.60 to the WCAs only.
- Zone D is narrow, pulse releases could be made to the estuaries for extended periods of time when the stage is rising to avoid larger releases.



Alternative #3



Milestone Schedule

- NEPA Scoping & Comment Period 30 Nov 05
- Preliminary Alt. & PM Identified 31 Jan 06
- Preliminary modeling & Analysis (start) 1 Feb 06
- Final Array of Alt. & PM Identified 28 Feb 06
- Final Modeling & Analysis 31 Mar 06
- Final Environmental Evaluation 29 Apr 06
- Selection of TSP 10 May 06
- Formal FWS Coordination (start) 10 May 06
- Draft WCP & SEIS (Public Release) 15 Jul 06
- Final WCP & SEIS 30 Nov 06
- SAD Approval of WCP & ROD 30 Dec 06
- Implementation Jan 07

Public Coordination

- Next Workshop: May 31, 2006 in Clewiston.
- 45 Day Public comment period for Draft SEIS in July 2006.
- Four Regional Public Meetings in August 2006.

Public Comments

Jacksonville District website: www.saj.usace.army.mil

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